Fossil fever

Who would think that Thanet's chalk cliffs, as well as being beautiful, could hold the surprising story of our planet's past life? Palaeontologist Alasdair Bruce gets you on the trail of fossils

The cliffs themselves are literally made up of billions of minute fossils called coccoliths, a form of plankton – so tiny that you would get about a hundred thousand on a pinhead. They and larger (more recognisable!) fossils abound in Thanet's cliffs and reefs. They give us a rare chance to look back over 80 million years ago when Thanet was covered by a warm tropical sea teeming with ancient life forms.

Every single fossil is a unique find and allows us a rare glimpse into a time when the Earth in general, and Thanet in particular, was a very different place from today.

Ammonite in cliffs at Kingsgate

Spondylus

Many fossils are washed out of the chalk naturally – ready to be picked up. This is by far the best and most responsible way to start collecting and helps preserve the chalk from unnecessary damage. If you are fortunate enough to pick up a fossil from the beach – be sure to wash off all the salt otherwise your precious find will eventually break up. What's the best way to do this? Well just put it in your toilet cistern! Every time you flush you are not only saving water but also washing out the salt. However, make sure descaler isn't in there or you will dissolve your fossil!

Name that fossil!

The **ammonite** is perhaps the most easily recognised fossil. Looking like a coiled rope, these animals are distantly related to the living nautilus of the Indian Ocean. With a squid like head, these animals probably scavenged on the sea floor looking for dead fish and other casualties. They are more often found as fragments of chalk with a pretty, almost fern like pattern on the surface. These are the seasonal growth lines on the shell. The cliffs and reefs of Thanet hold a true giant of an ammonite species, often reaching over 1.5 metres across.

The **belemnite** is a common fossil on our shores and looks a bit like a large brown

Belemnite

coloured bullet. This is in fact the backbone of a squid like animal that functioned in the same way as the modern cuttlefish bone you often find washed up on our beaches. Several different species of fossil belemnite are found in the chalk and probably formed a major food source for predatory reptiles like ichthyosaurs and plesiosaurs.

Many of you will have seen odd shaped bits of cream coloured shell on the shoreline. In some of our bays such as Kingsgate, they form a large part of the beach sand as they slowly break up. Surprisingly these bits come from a very large fossil oyster shell called **inoceramus**. Due

Inoceramus

to its thin shell very few specimens are found intact and all that is preserved are small fragments. They are easily identified by the edge of the shell having thin vertical lines.

Another common shell fossil is **spondylus**. Looking vaguely like a large cockle, these bivalves were equipped with long spines, on which they supported themselves above the soft chalky seabed while they filtered the water for food. As with most shell fossils from the chalk,

Spondylus

the original shell has been altered and replaced with chalky calcite.

The **micraster** is a heart shaped fossil urchin distantly related to a modern burrowing sea urchin found around our coast called a sea potato! Like its modern relative, the micraster burrowed into the seabed sediment with its fine covering of hair like spines in search of tiny particles of food trapped in the mud. Like a number of the common fossil sea urchins

Micraster

recovered from the chalk, they can often be found as flint fossils.

Echinocorys is perhaps the most common sea urchin fossil found around our shores. It has a distinctive helmet shape and, like the micraster, was another burrowing urchin that was once covered in a fine layer of spines. It is sometimes preserved as a flint cast.

Although a major part of the chalk fossil fauna, complete fish fossils are very rare. Should you be lucky enough to find one it is best to report your prize to an expert or Canterbury museum on 01227 475 202. Isolated remains are much more common and can be seen as red or orange coloured scales and bones. But don't be embarrassed if your potential fish fossil turns out to be seaweed stuck to the chalk – it's happened to us all!

Echinocorys